

What is claimed is:

1. A simplified control circuit for an intrusion detection device, comprising:

an intrusion detection alarm comprising a normally closed terminal, normally open terminal, and common terminal;

5 a ground terminal connected to the common terminal;

a direct current supply having a first voltage sufficient to power the control circuit in a standby and an active state, having positive and negative terminals;

a power terminal connected by a first return line to the positive terminal;

10 a first resistor, having a first resistance, placed between the normally open terminal and the normally closed terminal;

a second return line connected from the normally open terminal to the negative terminal;

a second resistor, having a second resistance, connected in the second return line, wherein current passes through the first and second resistor when the intrusion detection alarm comprises the standby state; and,

15 a zener diode, having a peak reverse voltage, and in series with an LED that are both placed in parallel with the second resistor wherein a voltage drop across the second resistor comprises insufficient voltage to reach the peak reverse voltage in the standby state and wherein the active state removes the first resistor from the circuit, reduces the voltage drop across the intrusion detection alarm, and increases the voltage drop across the second resistor to result in a
20 voltage over the peak reverse voltage across the zener diode that allows it to conduct and illuminate the LED.

2. The simplified control circuit of claim 1, wherein the first resistor comprises a resistance of approximately 47 ohms.

3. The simplified control circuit of claim 2, wherein the second resistor comprises a resistance of approximately 487 ohms.

4. The simplified control circuit of claim 3, wherein the direct current supply comprises a voltage of approximately 18 volts.

5 5. The simplified control circuit of claim 4, wherein the zener diode comprises a peak reverse voltage of approximately 6.2 volts.

6. The simplified control circuit of claim 5, wherein the intrusion detection alarm operates within a range of from about 9.5 volts to about 14.5 volts.

7. The simplified control circuit of claim 1, further comprising a switch between the
10 positive terminal and the power terminal.

8. The simplified control circuit of claim 7, further comprising a third resistor, current limiting, and a second LED in series with the direct current power supply wherein when the switch comprises an on position, supplying power to the power terminal and activating the second LED, and wherein when the switch comprises an off position, the second LED comprises
15 an inactive state and no power is supplied to the power terminal.

9. The simplified control circuit of claim 8, wherein the third resistor comprises a resistance of approximately 5.11K ohms.

10. The simplified control circuit of claim 1, further comprising:

a tamper switch comprising a two terminal circuit between the positive terminal and the
20 power terminal; and,

a series circuit comprising a third LED, a second zener diode having a second peak reverse voltage, and a fourth resistor in series between the first and second return lines wherein

breaking the tamper switch circuit increases the voltage across the series circuit to exceed the second peak reverse voltage to activate the second zener diode and the third LED.

11. The simplified control circuit of claim 10, wherein the fourth resistor comprises a resistance of approximately 220 ohms.

5 12. The simplified control circuit of claim 11, wherein the second peak reverse voltage comprises approximately 12 volts.

13. The simplified control circuit of claim 12, wherein the LED comprises a voltage of approximately 2.1 volts.

10 14. A method of reducing the connections in an intrusion detection device comprising a tamper switch having a two terminal circuit, a power terminal, a ground terminal, and an intrusion detection alarm having a normally closed terminal, a normally open terminal, and a common terminal, comprising the steps of:

connect the ground terminal to the common terminal;

15 provide a direct current supply having a first voltage sufficient to power the device in a standby and an active state, having positive and negative terminals;

provide a first return line through the tamper switch and between the power terminal and the positive terminal;

place a first resistor, having a first resistance, between the normally open terminal and the normally closed terminal;

20 provide a second return line connected from the normally open terminal to the negative terminal;

provide a second resistor, having a second resistance, connected in the second return line, wherein current passes through the first and second resistor when the intrusion detection alarm comprises the standby state;

5 provide a zener diode, having a peak reverse voltage, and an LED placed in series with the zener diode where both are in parallel with a second resistor wherein a voltage drop across the first and second resistors and across the intrusion detection alarm effect insufficient voltage to reach the peak reverse voltage of the zener diode in the standby state and wherein the active state removes the first resistor from the circuit, reduces the voltage drop across the intrusion detection alarm, and increases the voltage drop across the second resistor to effect a voltage to
10 exceed the peak reverse voltage, activate the zener diode, and illuminate the LED; and,

provide a series circuit comprising a third LED, a second zener diode having a second peak reverse voltage, and a fourth resistor that are all in parallel with the intrusion detection device and its first resistor wherein breaking the tamper switch circuit increases the voltage across the series circuit to exceed the second peak reverse voltage to activate the second zener
15 diode and the third LED.